Relocation

4 FEB 1974

MEMORANDUM FOR: Chief, Field Engineering Branch, RECD/OL

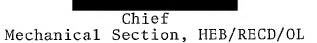
SUBJECT : Air Conditioning Design Analysis on the Properties Incorporate Office Building

- 1. Based on the building floor layout, structure design, and unavailable space for air conditioning equipment, the roof type air conditioning concept was obviously dictated by the foregoing reasons.
- 2. With the roof joists and beam design, the mechanical design firm has provided an acceptable air distribution system.
- 3. In addition to the attached comments for the A & E, the following should be considered for discussion at your next meeting:
 - a. Fire detection and protecting system.
 - b. Smoke detector in the return air duct of air conditioner #1. This could be a requirement by our safety personnel at a later time.

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- c. Standpipe if required by the Code.
- d. Increased building height to provide better duct size and to facilitate duct modification in the future which is always a necessity with our type of operation.
- 4. Economize cooling (outside air) is not practical in the area because of minimum number of days below 65 degrees F. During failures of cooling components, the windows and/or doors shall be opened to provide outside air when the outside air temperature is less than room ambient temperature.
- 5. Hopefully this expeditiously HVAC review and comments will be of some contribution in assisting you on this project.

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HVAC Comments To Be Considered In The Final Design:

- 1. A/C #1 shall have two (2) compressors to provide redundancy. In addition it is recommended that the compressors have capacity step reduction or 50 percent gas bypass reduction.
- 2. A/C #2 shall be curb mounted with bottom air discharge and return. For security reasons, roof exposed duct would not be acceptable. The roof curb support shall be factory furnished with A/C unit.
- 3. To minimize possible high noise level from ceiling diffusers nearest A/C units, duct sections near main air discharge should be lined with duct lining material.
- 4. Thermostat in room 106 shall be relocated into room 107 and away from heat producing equipment.
- 5. Thermostat assembly shall consist of heating and cooling thermostats. Each thermostat shall consist of matching sub-base with switches for heating and cooling (with manual or automatic changeover) and continuous or automatic fan operation, and ON-OFF switch. The ON-OFF switch will provide the building occupants to turn off each system prior to leaving the particular area.
- 6. The indicated exhaust fan in room 142 should not be required (unless used as a conference room) because the toilet exhaust fan exceeds the indicated fresh air makeup.
- 7. The proposed exhaust fan to be installed in room 118 will perhaps exceed the fresh air from A/C #2. The fan, when installed, should be without gravity or motorized damper so as to provide air relief when the fan is not running.
- 8. In lieu of an exhaust fan for the vaulted area, a return air relief damper could be installed in the return air duct as it leaves the vaulted area and discharged into the corridor below. Alternate location is a factory installed air relief damper on A/C #1. The exhaust fan as shown shall remain if high heat or fume producing equipment is to be installed in room 105.